CARNEGIE MAGAZINE

CARNEGIE INSTITUTE | CARNEGIE INSTITUTE OF TECHNOLOGY | CARNEGIE LIBRARY

VOLUME XIII PITTSBURGH, PA., JANUARY, 1940 NUMBER 8

THE VAGABONDIA IN SOUTHERN SEAS

(*See Page* 227)

THE CARNEGIE MAGAZINE

PUBLISHED MONTHLY, EXCEPTING JULY AND AUGUST, IN THE INTEREST OF THE CARNEGIE INSTITUTE, THE CARNEGIE INSTITUTE OF TECHNOLOGY, AND THE CARNEGIE LIBRARY, PITTSBURGH, PA. SUBSCRIPTION PRICE ONE DOLLAR A YEAR; SINGLE COPIES TEN CENTS. ON SALE AT INSTITUTE POST OFFICE, AND THE BOOK DEPARTMENTS OF KAUFMANN'S AND THE JOSEPH HORNE COMPANY.

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VOLUME XIII — NUMBER 8

JANUARY, 1940

Ah, what a life were this! how sweet! how lovely!
Gives not the hawthorn bush a sweeter shade
To shepherds, looking on their silly sheep,
Than doth a rich embroider'd canopy
To kings that fear their subjects' treachery?

—KING HENRY VI

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MARSHALL BIDWELL, Organist

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—ANDREW CARNEGIE

THE SEVEN WONDERS OF PITTSBURGH

DEAR CARNEGIE:

In your review of Will Durant's "The Life of Greece," you speak of the Mellon Industrial Institute building as "a temple whose huge columns and spacious dimensions make it one of the Seven Wonders of Pittsburgh." Will you please give us a list of the Seven Wonders of Pittsburgh.

—AUDREY MCCANN

It was merely a poetic phrase. But here is a suggestion of the Seven Wonders of Pittsburgh. We shall be glad to have corrections or additions from our readers, just so they do not exceed seven:

1. The Three Carnegie Institutions: Library, Institute, and Tech.
2. The Cathedral of Learning.
3. The Mellon Industrial Institute.
4. The Buhl Planetarium.
5. The Pittsburgh Symphony Orchestra.
6. The Carnegie Steel Works.
7. The Westinghouse Electric Company.

HELEN OF TROY

NEW YORK CITY

DEAR CARNEGIE:

Will you be good enough to tell me where you got the title for one of your articles in the CARNEGIE MAGAZINE for December. You use "The Glory That Was Greece" and it strikes a familiar note.

—JAMES KRONE

The words are taken from a poem by Edgar Allan Poe, who saw a statue of Helen of Troy in a window, and wrote as follows:

TO HELEN

Helen, thy beauty is to me
Like those Nicean barks of yore,
That gently, o'er a perfumed sea,
The weary, wayworn wanderer bore
To his own native shore.

On desperate seas long wont to roam,
Thy hyacinth hair, thy classic face,
Thy Naiad airs, have brought me home
To the glory that was Greece
And the grandeur that was Rome.

Lo! in yon brilliant window-niche
How statue-like I see thee stand,
The agate lamp within thy hand!
Ah, Psyche, from the regions which
Are Holy Land!

A VOICE FROM ELSINORE

NEW YORK CITY

DEAR CARNEGIE:

Your continued interest and help is most gratifying. I am sure that there are many people in Pittsburgh who are interested in Shakespeare, and your aid in reaching these people is most valuable.

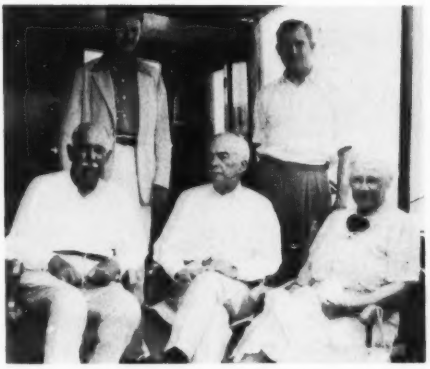
—MAURICE EVANS

VOYAGE TO THE STRAITS OF MAGELLAN

By Arthur C. Twomey
Field Collector, Section of Ornithology, Carnegie Museum

I.

This excerpt from my South American notes covers the voyage of the Vagabondia from Chiloé Island, Chile, to Tierra del Fuego; and back to Huanope Island, off the coast of Peru, during the spring of 1939. The Vagabondia, belonging to W. L. Mellon, of Pittsburgh, a trustee of the Carnegie Institute, was making a round-trip cruise from Miami to Tierra del Fuego, and Mr. Mellon had invited the Carnegie Museum to send me as their representative on the voyage, granting me a rare opportunity to enrich our scientific collections with many valuable specimens.



THE VAGABONDIA PARTY

Seated: W. L. Mellon, E. P. Mellon, and Mrs. W. L. Mellon
Standing: Dr. Twomey and Dr. Gunderson

The party was made up of Mr. and Mrs. W. L. Mellon, E. P. Mellon, Dr. Gunderson, the yacht's physician, and myself. From the hour of sailing on January 31, 1939, it was seventy-seven days until we again returned to Miami. During this period we covered seventeen thousand miles and collected specimens from such localities as Barro Colorado Island, in the Canal Zone; the interior of southern Panama; the vicinity of Lima, Peru—back to the crest of the Andes; Valparaiso, Chile; Puerto Montt, Chile; numerous localities along the inside passages of southern Chile, particularly the region about the Gulf of Penas; Punta Arenas, Chile; Tierra del Fuego; Galápagos Islands; and Cocos Island. Although time was limited and the distances covered were great, yet through the careful planning of the voyage by Mr. Mellon we were able to achieve our objectives.

If this excerpt from a rather lengthy experience seems overcrowded and intense, it will be because the experience itself was too vivid and too intense for me to feel that I have yet digested it fully. In the southern tip of South America there is a whole order of life so foreign to our temperate order, so much too rich in feelings for our Pittsburgh notions of simple moderation, that traveling leads a visitor simply from one peak of wonder to another, and there seems to be no place of emphasis. There is no pausing in dull moments to reflect upon things seen, or to prepare for what is coming, for there are no dull moments. There is no way to escape the chaos of emotions with which such a country must be viewed. Everything lives in extremes, extremes such as are scarcely conceivable to a person who has not seen them.

There is no desert that is not a superdesert, and no abundance that is not a superabundance. A forest is not simply dense, it is impenetrable. A glacial wall is not merely thick, it is three hundred

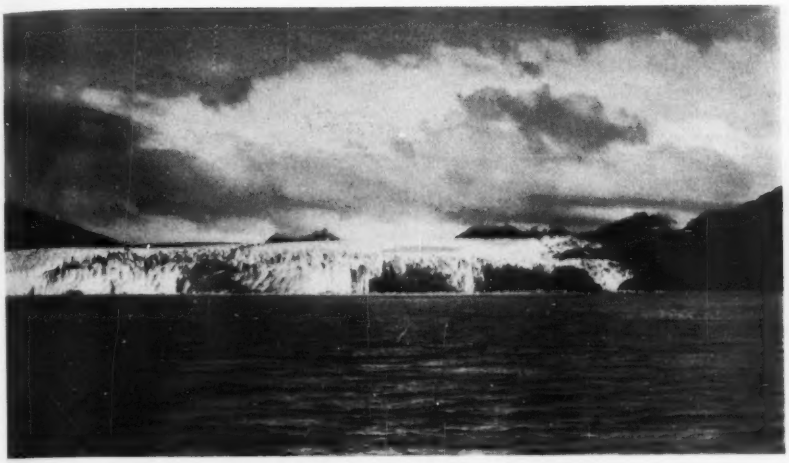
feet high. Birds and animals and plants exist in such conditions as are not only unusual, but are hitherto almost unheard of. I have chosen to describe a few days at the southern end of the South American continent because they are typical of the life which, especially as an ornithologist, I felt it such a rare privilege to be living, day after day.

The Straits of Magellan and the inside passages are probably described in print, eventually, by every person who ever sees them, for they are the kind of scenery that must be told about. Darwin wrote about it one hundred years ago; and Dana, a few years after, described it from a sailor's angle in "Two Years Before the Mast." On our way into the Straits of Magellan, we passed by many an alluring spot that only great strength of purpose and a very methodical Captain prevented our stopping to see. The last of these that I saw or remember, before we entered the inside channels of the mainland, was Chiloé Island.

1939 CRUISE OF THE VAGABONDIA
The route is indicated by the broken line.

It was about five oclock in the afternoon on a cloudy, dampish day that we began to discern, distantly, the island's outlines. In this part of the world, five thousand miles south of Miami, roughness is all a relative matter. High mountains seem small because other mountains are higher, and the heights of Chiloé Island were seemingly dwarfed and rolling only because we could also see, in the distance, the lofty, snow-capped Cordilleras—which we were approaching—far to the east on the mainland.

Chiloé Island, as we came really close to it, rose stern and forbidding—a violent and dangerous and alluring country, just, somehow, as it should have been. Its natural wall of dark solid rock was incessantly pounded by the turbulent waters of the Pacific. Where the coastal rock was occasionally broken, there lay coarse gravel beaches, giving way abruptly to great temperate rain forests that covered all the rugged land of the interior with a luxuriant blanket of deepest green. Only on the precipitous faces along the coast could the underlying rock surfaces be seen. Night was falling. The roar of pounding waters filled our ears and dark creeping shadows deepened perceptibly as we stood straining our eyes to see into the impenetrable hills of the interior. It was not a place that any adventurer would willingly leave behind, but the yacht kept well out to sea, and we were prevented from any closer inspection of the land.



THE GRANDEUR OF TIERRA DEL FUEGO

By the next morning we were well south of Chiloé Island. I awoke to a strangely placid and quiet world, to a cabin where no objects rolled or rattled, and to a porthole free from spray. I realized that we had left the Pacific swells behind us and were now in the still waters of the inside channels. This stillness of the water is due to protection afforded by the mountains on either side. But still they have a bad-weather name, for the winds are often blusterous, the skies overcast, and there is almost continuous rain.

During the early hours of the morning the air was wet and gray. Fog drifted thickly about us. We moved along at half speed. The sun, as it gradually rose above the towering peaks of the Andes, revealed two snow-covered volcanic cones, majestically lifted above all else, brilliantly glistening and gleaming above fog banks that curtained the bases. The swiftly mounting sun cast over these peaks a slight reddish glow, outlining with warmth the beauty of Osorno's almost perfect cone and the saddle-shaped summit of Corcovado. In recent years both these cones have been active volcanoes, and it is, I suppose, possible that the smoke, or vapor, which I thought I saw rising in a fine cloud from Osorno, was something more than illusion.

At 10 A.M. the fog had cleared, and everyone was at the deck rail for a glorious first view of the great glaciers. Back sometime in the distant past the glaciers began to plough their way through wild rugged mountains of endless forest such as now surrounds them. The brilliant white of the glaciers and the rich green of the forests are sensationally sharpened in color, each by the constant contrast with the other.

Strange flat-topped tree shapes, such as are usually associated with acacia trees and warm climes, dominated the forests. The varied hills to the west of us, where lay the Archipelago de los Chonos, loomed up, as we passed slowly along, in intricate pattern against the sky. There were islands of rugged, sharply broken hills; some islands were conical, some gently rolling, and some merely boulder strewn. At intervals we met little channels from the open ocean that transmitted to our channel a light roll.

It was always at the mouths of these little channels that we saw that great bird, the wandering albatross, a creature of wondrous strength and grace, which circled our boat in a continuous glide, its black-tipped wings absolutely

CHILEAN HUEMAL

motionless, but catching the slightest air current, sustained in an effortless sailing of both beauty and speed. At times the white birds glided, tipped halfway on their sides, their wings perpendicular to the channel's surface.

At other channels, four to ten albatrosses dotted the gray waves, not attempting to fly unless nearly run down by the yacht. They were so well fed that only with the greatest effort could they lift their heavy bodies from the water. First they would run along the surface for some distance, then, as their long, powerful wings came gradually into play, they would move off, rise abruptly, circle back, and proceed on motionless wings to survey this infrequent disturbance of their channel wanderings. Other oceanic birds appeared in these lateral channel entrances. Sooty shearwaters—the commonest ocean birds in the cool waters of the Humboldt current—streamed in from the open ocean in swirling flocks, until the whole width of the channel flickered with these graceful black-colored petrels. Unaccountably, two lines of the birds were passing each other, going both back and forth, from the open ocean. At intervals, a few diving petrels, black above the white below, bobbed up close to the yacht, looking like little auks. They would at once take to flight, skipping over the surface, their feet just touching it, and then would rise a short distance above the surface, fly a few yards and suddenly, seeming to collapse, would tumble into the sea, vanishing with a splash.

Although the variety and beauty of the scenery kept us constantly on deck, it was difficult to gather any orderly concept of these too quickly moving events. Always there were walls of ice, and those dark dripping forests that seemed to close in on all sides, appearing as if springing from the very sea, so completely did they envelop the shores. Nowhere was there ever a sign of man. All seemed completely untouched from Time's earliest beginning. Certainly, Darwin's description of a hundred years ago fitted the present as accurately as apparently it fitted the past. Perhaps the only notable change in the scene

since his day was the change in the volcanoes, Osorno and Corcovado, for on the first morning that Darwin saw the great snow-capped domes towering above the forests, he said:

> On the night of the 19th (January, 1835) the volcano of Osorno was in action. At midnight the sentry observed something like a large star, which gradually increased in size till about three oclock, when it presented a very magnificent spectacle. By the aid of a glass, dark objects, in constant succession, were seen, in the midst of a great glare of red light, to be thrown up and to fall down. The light was sufficient to cast on the water a long bright reflection. Large masses of molten matter seem very commonly to be cast out of the craters in this part of the Cordillera. I was assured that when the Corcovado is in eruption, great masses are projected upwards and are seen to burst in the air, assuming many fantastical forms, such as trees; their size must be immense, for they can be distinguished from the high land behind S. Carlos, which is no less than ninety-three miles from the Corcovado. In the morning the volcano became tranquil.

At Elefantes Gulf we penetrated to its southern extremity where the Istmo de Ofque nearly severs the great Peninsula of Taitao from the mainland. Small rocky islands, covered with lush vegetation and tiny sand beaches, were the resting places of Magellanic penguins, blue-eyed cormorants, dolphin gulls, steamer ducks, and kelp geese. To the southeast, enveloped in a veil of drifting fog, sprawled the great San Rafael glacier, coming off the gigantic main glacier like a battering ram that had once crashed its way through the green forests.

At the southern extremity of Elefantes Gulf we dropped anchor and remained for four days. Exploring parties were out from early morning till late at night. W. L. Mellon, with E. P. Mellon and a crew of two men, took one of the launches; Dr. Gunderson, the ship's doctor, and I—with seaman Gunner Landin as engineer, pilot, and assistant, and one or two other sailors—took another launch. After each day's exploits, we always talked over our findings, each contributing to the evening his most interesting experiences. Mr. Mellon explored the smaller, hidden creeks with one of the smaller boats—penetrating into all the small bays, looking for new things, and steadily adding to our ever growing collection of specimens. Thus I was free to penetrate the larger inlets and rivers with the large launch, stopping frequently to enter the forests, especially in search of birds and other animal life. Our evenings were always lively and often full of fun. Mrs. Mellon stimulated us all to conversation by her own wide scientific interests and her constant questions about the progress of our work.

In our several weeks at Elefantes Gulf, we never saw a day without rain. The sky often cleared for a few moments at a time, but shortly after, a big, wet,

DR. TWOMEY IN THE DENSE FORESTS AROUND ELEFANTES GULF

"WHO'S THE BOSS HERE?"

gray cloud would roll down off the inland glaciers and fall again in torrents upon the forest slopes. Oilskin clothing and rubber waders were the only possible dress at San Rafael. We were soaking wet from the time we left in the morning until we returned late at night. Wet, boggy ground, dripping forests, driving winds, and soggy skies put an almost constant tone of gray over everything, broken only at rare intervals by the light of a brilliant sun which turned mountains, glaciers, forests, and rivers into a fairyland of melting colors and dreamy unreality. Yet even with constant rain, there was never monotony.

Narrow game trails, some old and unused and others fresh, were in evidence in the forest and along its edge. While we were collecting on the Rio de la Heumules, Mr. Mellon came in to report that he had sighted several deer along the river bank during the morning. Later he went out and was able to catch several specimens. The deer proved to be the Chilean Huemal (Hippocamelus bisulcus) a distinctive deer of these southern Chilean forests. In summer snows it migrates annually to the foothills and nearby plains. The bucks weigh about one hundred and twenty-five to fifty pounds and carry a peculiar set of antlers that have only two forked tines, one extending partly forward and the other quite upright. The face is marked by a broad black line that runs from the muzzle to a point between the eyes where it divides like a Y. Likewise, large exposed glands lie conspicuously below the eyes.

The same deer were next seen along the Rio de la Pascua while repairs were being made on the launch. Fourteen deer—three bucks, nine does, and two fawns—were in one herd. When I approached them they merely moved off a little and watched, inquisitively. Soon a curious doe trotted up to within forty feet of me, but a disturbed buck ran up and prodded her with his antlers and sent her back to the herd. Then the outraged buck focussed his attention on the new creature that had dared to enter his domain. It soon became apparent that he intended to challenge me, for he clicked his jaws, shook his head, frothed at the mouth, and steadily moved forward. Since we already had our specimens, I made as graceful a retreat as was possible, much to the merriment of the crew that had come up the river to help with our disabled launch. It must have been amusing to see that little buck measuring each step as he gradually backed me off his feeding range. At any rate, I was able to take a number of photographs, and thus ended the little episode, with each contestant having achieved his objective and no injuries.

The dark forests were characterized by masses of tangled vegetation. At their edges, great masses of fuchsia shrubs (Fuchsia magellanica) some ten to twelve feet in height, were simply covered with drooping, red blossoms. It was this same wild Chilean fuchsia that was first taken to England in 1788. Since that date 841 species and varieties have been developed by hybridization from the original form.

Another shrub that dominates the forest opening and the edge of the forest was a thorny holly-leafed bar-

berry (Berberis licifolia) that has a red and yellow trumpetlike flower. Along with these growths were countless other forms—vines, tree ferns, grasses, and mosses. Near the water courses were the long white feathery plumes of the tall, graceful southern bamboos.

In the lowlands, great trees towered above all other growths. Many were covered by lichens, mosses, and tree parasites, mistletoelike forms such as myzodentron punctalatum. The winter's bark (Drimys winteri) a smooth grayish-green barked tree, with large clusters of magnolialike leaves, extended along the coast where they grew from one to three and a half feet in diameter and from forty to eighty-five feet tall.

The most dominant tree forms in these forests were the two southern, small-leafed beeches: the evergreen beech and the antarctic beech. The evergreen beech averaged three to four feet in diameter, although the occasional individual attained a diameter of seven feet, fifteen feet above the roots, and ranged to one hundred feet or more in height. The antarctic beech, a deciduous form, was found over a wide selection of habitat preferences from sea level to the high alpine meadows. At sea level and on the lower mountain slopes these trees averaged three to five feet in diameter and forty to eighty feet in height. But on some of the higher mountain slopes they often formed an impenetrable shrubby growth that covered acres. At the edges of timber line they took on the form of a stunted, wind-twisted tree only five or six feet high, and sometimes grew as a recumbent, matlike shrub that hardly reached more than ten inches from the ground.

The primitive type of cone-bearing conifer, podocarpus nubigena, was not abundant, but in some restricted localities, particularly where the large glaciers exert a lowering effect on the atmospheric temperature, these trees grew in extensive stands. This type of forest always had a gloomy and ghostlike appearance because of the great, long festoons of hoary gray lichens (Usnea) which streamed down from the branches of the trees.

Along the banks of the rivers and in boggy places, the rhubarblike, giant umbrella plant (Gunnera chiensis) with stems five to seven feet long and leaves six to ten feet across, was found growing in profusion. The natives of the channels use the stems for dyes and the roots for food, but we found the huge leaves excellent shelters during heavy showers.

(*To be concluded in the February number*)

THE WURTS CHRISTMAS DINNER

If a student at the Carnegie Institute of Technology is unable to go home for Christmas, he will still be assured that someone cares about his having a nice time and enjoyable company at a dinner on Christmas Day. The liberal bequest that was left in 1927 by Alexander J. Wurts, for many years a member of the Carnegie Tech faculty, will always take care of the student who is far from home.

This year Donald M. Goodfellow, a member of the English Department at Carnegie Tech, and his wife were hosts to seven such students at the Ruskin at 6 oclock on December 25. Two student assistant hostesses, Margaret E. Townsend and Jane Hathaway, from the Department of Social Work at Margaret Morrison Carnegie College, were also members of the party, aiding Mr. and Mrs. Goodfellow in the entertainment of the guests.

There were only two foreign student guests this year, a girl from Germany and a boy from Hungary, but the Far West and the New England states joined hands with them and with each other to make Mr. Wurts' memorial a memorable occasion for them all.

PEASANTS

I am very fond of peasants—they are not educated enough to reason incorrectly.

—Montaigne

"THE PASSION ON COPPER" BY ALBRECHT DÜRER

Presented to the Carnegie Institute by Frederic Schaefer

FREDERIC SCHAEFER, a trustee of the Carnegie Institute and a member of the Fine Arts Committee, has presented "The Passion Engraved on Copper" by Albrecht Dürer to the Print Department of the Institute. This set of engravings is also called "The Little Passion on Copper" to distinguish it from the large and small "Passion on Wood."

There are sixteen prints in the series: "The Man of Sorrows," "The Agony in the Garden," "Christ Taken by the Jews," "Christ before Caiaphas," "Christ before Pilate," "The Flagellation," "Christ Crowned with Thorns," "Ecce Homo!" "Pilate Washing His Hands," "Christ Bearing the Cross," "The Crucifixion," "The Descent from the Cross," "The Entombment," "Christ in Limbo," "The Resurrection," and "Sts. Peter and John Healing at the Temple Gate."

These prints were engraved between 1507 and 1513. The last one, dated 1513, "Sts. Peter and John Healing at the Temple Gate," does not have a definite bearing on the theme of the other fifteen, but it is usually included in the series. Dürer considered the Passion to be the subject most worthy of reproduction in pictorial art, portraying it five different times, and a sixth version remained unfinished at his death.

The events of the life of Christ had been depicted in art from the earliest days of Christianity, but emphasis had probably not been placed on the story of the Passion until the discovery and veneration of the relics of the Passion by St. Helena, the mother of Constantine. The Passion cycle, as such, did not appear until St. Bonaventura in the thirteenth century developed it in his "Life of Christ." In 1342 the Franciscans established themselves in Jerusalem and undertook the custody of the sacred places of the Holy Land, and they began to spread throughout the world the devotion of the Way of the Cross, also known as the Stations of the Cross. It was then that artists and craftsmen, in response to a popular demand, began to picture scenes having to do with the suffering of the Savior. Most of the Passion cycles were produced in the field of graphic art, and the artists of Germany excelled in the treatment of the Passion as a cycle. Outstanding are those by Martin Schongauer, Israhel van Meckenem, and the five by Dürer—one of which is "The Passion on Copper."

At first the number of episodes in the Passion seems to have been seven, but Duccio, in the fourteenth century, painted twenty-six scenes, all within the limits of the subject. Dürer, in his small woodcuts, presented thirty-seven subjects, not all of which were intimately related to the Passion, but in the series engraved on copper he confined himself to fifteen. Long after the Way of the Cross had become a sacramental in the Catholic Church, the events of the Passion to be commemorated were limited to fourteen, and so it has come to pass that there are fourteen Stations of the Cross. It was the imagination and inventive pictorial ability of Albrecht Dürer in his engravings and woodcuts that, in large measure, have furnished the ideas and compositions for the painters, sculptors, wood carvers, and other craftsmen who through the past six hundred years have designed Stations of the Cross.

Albrecht Dürer (1471-1528), by common consent the greatest of German artists, was the first German engraver who was also a painter. The fact that he was a painter accounts for the advance he made in the composition of his

prints over his predecessors and contemporaries. While he was primarily a painter, the greater and more successful part of his career was devoted to drawing on blocks for the woodcutter, or engraving with his own hands on copper. In copper engraving he trained himself to develop methods practiced by Martin Schongauer and the earlier masters into one suited for his own self-expression. His first engraving on copper was done in 1495. The initial plate of "The Passion on Copper"—"The Descent from the Cross"—was made in 1507. When he tired of painting he turned to engraving again, and in 1512 did ten of the sixteen prints. Dürer published the first fifteen in that year with "The Man of Sorrows" as the title-page. On his journeys Dürer took with him impressions of his engravings and woodcuts, and by their sale paid the expenses of his travels. It is recorded in his diary, dated at Brussels in 1520, "I gave Master Bernard van Orley, the painter, a 'Passion' engraved in copper, and he gave me in return a black Spanish bag worth three florings. I have also given Erasmus of Rotterdam a 'Passion' engraved in copper."

THE CRUCIFIXION
From "The Passion on Copper"
By Albrecht Dürer

The genius of Dürer may be seen to advantage in his small engravings. His work on metal was his own, both in design and execution. His predecessors in the field worked with a single, or, at least, a very few figures. He composed with many figures and successfully worked out the nice problem of proportion and arrangement in small space. It was Erasmus, who knew probably only of his engraved work, who wrote: "What can he not express with a single colour—that is to say, with black lines? He can give the effect of light and shade, brightness, foreground and background. Moreover, he produces not merely the natural aspect of a thing, but also observes the laws of perfect symmetry and harmony with regard to the position of it. He can also transfer by enchantment, so to say, upon the canvas [sic], things which it seems not possible to represent, such as fire, sunbeams, storms, lightning, and mist; he can portray every passion, show us the whole soul of a man shining through his outward form; nay, even make us hear his very speech. All this he brings so happily before the eye with those black lines, that the picture would lose by being clothed in colour."

J. O'C. Jr.

VENICE

The decay of her political prosperity was exactly coincident with the decay of her personal and domestic religion.

—John Ruskin

NO NEXT WAR

As for threats of new war, while the peoples of the world still so painfully feel the scourge of the last terrible war, we cannot believe they are real because we are unable to believe any civilized state exists which is willing to become so monstrously homicidal and almost certainly suicidal.

—Pope Pius XI

HOW WE GOT THE RADIO

By Samuel Harden Church

[Address on the Dedication of the New Transmitting Station of KDKA at Allison Park, near Pittsburgh]

The desire for discovering a power by which people could communicate with each other between great distances has moved men of genius through all the centuries to undertake experiments to that end. The secret of this power was in the air, right at their finger tips, from the beginning of time, but they could not find it. They were like children playing at blindman's bluff. In ancient times a fire tower used as a signal from one mountain top to another was the sole means of distant communication, and that was efficient only by night. In war and in peace this urge for the interchange of intelligence was a hunger in the minds of all men. In so great a battle as that in which the Greeks defeated the Persians at Marathon, the Greek general Miltiades could send word of his victory to his anxious countrymen at Athens, twenty-six miles away, only by a fast runner, Phidippides, who fell dead on shouting the good news at his destination.

I read recently the last letter written by Christopher Columbus to Ferdinand and Isabella. It was composed during his fourth and last voyage, while his leaking ship stood off the coast of Panama. He was now stormbound by a terrific hurricane which kept on with unabated fury for more than a month. He had sailed for the last time in search of an open passage from the Atlantic to the Pacific. He did not know that four hundred years later that passage would be cut precisely at the point where his ship then lay. He did not know that at the entrance to that canal there would be a city named with his first name, Cristobal, and near it another city called by his last name, Colon. He had sent a boat ashore for water, but the men had all been massacred by the savages. His sailors were dying of hunger. He was sick himself and in constant expectation of death, and in such circumstances he writes to his sovereigns: "I went upon the deck and ascended into the highest part of the ship, and called upon all of your Majesties' war captains from every point of the compass to come to my assistance, but they could not hear me, and they came not." Yet if he could only have sent to Andrew W. Robertson, or to Lenox Riley Lohr, the Westinghouse people would have equipped his ship and the ships of those war captains with a little instrument no larger than a watch, and then the whole grand fleet of Spain would have heard his despairing cry and rushed to his aid.

At the battle of Waterloo both Napoleon and Wellington were caught in the grip of fate by this baffling inability to communicate with their reserves; and if, on that June afternoon in 1815, the French Emperor could by a wireless signal have summoned Grouchy and his cavalry, or if the English commander could have called Blucher and the Prussian army to his aid, there would have been a much quicker decision of that titanic struggle.

But science nurses her secrets, as a hen gathereth her brood, until the time is ripe for her disclosures. The centuries moved on, from the Garden of Eden down to our own epoch, with the yearning world unconscious of this rich mystery that had always hung in the atmosphere, only waiting to be discovered. Then, in 1887, a brilliant young German, Heinrich Hertz, audaciously unlocked and disclosed this deep secret of the universe. Hertz proved to an astonished world that surrounding us on every hand, pervading the air as we breathe it into our lungs, these mysterious waves of ether exist as

systems of transportation which will carry our thoughts with the speed of light into the remotest ends of the earth. But the Hertz discovery was a contribution of pure science. In 1895 Guglielmo Marconi adapted these Hertzian waves to wireless telegraphy, and we thus had the most splendid example of applied science that has ever come to to the human family. Yet all that Marconi could do was to send across the ocean very faintly the single letter "S" (three dots, . . .) in the Morse code.

It took a long time to bring this scientific power into obedient control, but by 1912 wireless equipment was being placed in some of the ships at sea; and on April 15 of that year a young engineer named David Sarnoff, while experimenting with his instrument, shocked the world by receiving and transmitting this tragic message: "S.S. Titanic ran into an iceberg. We are sinking fast." That episode established the inestimable value of the Marconi system for giving aid in the accidents of the sea; but that was done by telegraphic dots and dashes, and it did not yet provide for carrying the human voice through the microphone.

But it was the microphone that held the highest promise and the ultimate goal of the Heinrich Hertz discovery. The Westinghouse Electric and Manufacturing Company, at Pittsburgh, had quite early entered the field of exploration toward this objective; and they put in charge of the work two men, Harry P. Davis and Frank Conrad, whose confident and devoted efforts brought about the success of this supreme gift of science and made radio transmission the intimate accessory of every family in the civilized world. I cannot avoid a thrill of pride in recalling that Mr. Davis, until his death, was a valued friend of mine, that he lived in the fourth house beyond mine on Wallingford street, and that I was an enraptured observer of his progress in the development of this wonder of all wonders on which he had set his heart.

On November 2, 1920, only nineteen years ago, through the persistent and unremitting work of Mr. Davis, Dr. Conrad, and their business associates, Westinghouse KDKA station was put into operation at Pittsburgh, being the first broadcasting station in the world; and its first countrywide transmission covered the election returns that made Warren Harding President of the United States. After nine months of programsending, and having all the time the cordial co-operation of the newspapers of the United States, the Westinghouse Company established various other sending and receiving stations through the country, and the American people, slowly but progressively, began to be proudly conscious of the priceless thing that had come into their possession. On January 2, 1921, Westinghouse KDKA gave the world the first transmission of a church service, carrying in full the evening service of Calvary Episcopal Church, in Pittsburgh, conducted by the Rev. Dr. E. J. van Etten; and in 1922 Westinghouse established a station in Chicago and gave America its first grand opera by radio, consisting of a complete performance of Madame Butterfly by the Chicago Opera Company.

The next step in radio development was the discovery of the power of the short-wave transmission, and through this accessory it seemed that distance had been annihilated, and that all communities, in all countries, had now received this magic gift of instantaneous intercommunication. Westinghouse was first in the field with its W8XK shortwave station at Pittsburgh and began at once the interchange of intelligence, first with England, then with South Africa, then with all nations, until today her programs carry back and forth the speeches, the music, the drama, the grand opera, and the alluring entertainments of every kind that concern our common life. An incident of great significance in this work is its unconscious influence toward the international understanding of the English language.

The new transmitting station that we

are inaugurating here at Allison Park has been designed to promote the efficiency of this marvelous public service. It is right that we should acclaim it, for it is an application of science that brings the nations closer together through radio communication; and with the world now in the grip of that ambitious adventurer who is destroying its people and its civilization, we look to the radio, with its familiar and constant interchange of ideas among men and women—yes, and children—as one of the greatest agencies of all time to get people acquainted, and to enlarge the spirit of brotherhood everywhere, so that wars in the future will be impossible, and we shall at last have peace on earth and good will toward men.

ONWARD AND UPWARD WITH MUSIC EDUCATION

THE recent grant of the Buhl Foundation to the Pittsburgh Symphony Orchestra, enabling that fine organization to take music into the schools, promises a bright music future for the children of Pittsburgh. Heretofore only a relatively small group has had the opportunity—mainly for transportation reasons—of hearing the concerts of the Pittsburgh Symphony and the special programs for young people. This meant that good music was not available in any educational form to the great mass of school children who should be hearing it. The sublime enjoyment of knowing and understanding great music is the ideal for which educators and philanthropists such as the Buhl Foundation strive, and it seems evident that their goal will be achieved through such co-operation as is being attained in the new arrangement.

The words of Mayor LaGuardia of New York have expressed a universal attitude concerning a development of musical interest and music education:

> No greater mistake can be made than to believe that good music is not appreciated and enjoyed by the masses of the people. The truth is the great masses of the people have not had and do not have the opportunity of hearing classical music performed by great symphony orchestras. What we must do is to establish a musical democracy whereby our symphony concerts might be supported by the people and for the people.
>
> The opportunity of hearing the great music masters and symphony concerts up to a comparatively few years ago was the limited privilege of the exclusive few. Music is old, but its popular appreciation is young. When the great masters were creating their imperishable works very few of their contemporaries had the opportunity of hearing or enjoying the music, or of hearing a great orchestra or a chamber quartet. But a very, very small percentage of the generations of Handel, Bach, Mozart, Beethoven, Schubert, and Chopin, even to the time of Wagner and Brahms, knew of their music, or ever heard it.
>
> To bring it right home, not one per cent of the grandfathers or great-grandfathers of the people of this country who lived in the periods of these masters I have just mentioned ever had an opportunity of hearing a good orchestra, chamber music, or the works of these composers. Why? Because music in those days was supported chiefly by royalty, the kings and the princes, the dukes and ecclesiastical dignitaries. It was one of the exclusive enjoyments of the aristocracy and of great wealth.
>
> The very same system and custom in a great measure were transplanted to this country. For the past fifty years great symphony concerts have been largely supported by the generous contributions of a few individuals. Before the radio, the privilege of enjoying these concerts was limited. With mechanical reproduction of music, the extension of musical education in our schools, the medium of the radio, the great music masters are now giving enjoyment to millions of the people, and what is more, good music has become a necessary part of the lives of millions of our fellow Americans.

WHAT POETRY DOES

Poetry is to violent emotion what the crystal is to the condensing salt or the equation to laborious thinking—release, identity, and rest. What words cannot do as words because they can only speak, what rhythm and sound cannot do as rhythm and sound because they have no speech, poetry can do because its sound and its speech are a single incantation. Only poetry can produce that absorption of the reasoning mind, that release of the listening nature, that solution of the deflections and distractions of the surfaces of sense, by which intense experience is admitted, recognized, and known. Only poetry can present the closest and therefore least visible experiences of men in such form that they, reading, may say: "Yes . . . Yes . . . It is like that . . . That is what it is truly like."

—ARCHIBALD MACLEISH

PATRONS ART FUND PURCHASE

"Tragic Journey" by Ferruccio Ferrazzi Added to the Permanent Collection

ANOTHER painting has been added to the permanent collection of the Carnegie Institute through the Patrons Art Fund. It is "The Tragic Journey" by Ferruccio Ferrazzi, distinguished Italian artist. This makes the thirty-ninth painting acquired for the collection through the fund since its establishment in 1922.

The artist has explained that in "The Tragic Journey" he tried to reproduce a scene that he saw during the first World War when some peasants were being transported from Sardinia to Italy. At that time travel by sea was dangerous because of mines and submarines, and the peasants, who had never been away from their island home before, were terrified, though resigned to their fate.

This theme has been used by the artist as a peg on which to hang his very personal and highly developed technique. Every line of what represents the lower compartment of the vessel is made to play its part in the design of the painting. Men and women are nicely placed and appropriately posed so as to fill the spacious canvas without crowding it. Even the boxes on which they are seated or against which they are leaning are arranged to enter into the design. The woman in the door of the cabin—the same model which may be found in the artist's canvas "Horitia and Fabiola"—is beautifully drawn and lighted. It is this figure, in its repose and resignation, that relieves the sense of terror and despair that hovers over the canvas. The background of the painting is a deep blue, which intensifies the feeling of impending doom. This color is complemented by a variety of browns and greens in the figures.

THE TRAGIC JOURNEY

The canvas is 61 inches in height by 46½ inches in width. It is signed "Ferruccio Ferrazzi, 1925" in the lower left. It was brought to the United States in 1926 for the Exhibition of Modern Italian Art, held under the auspices of the Italy-America Society, at the Grand Central Art Galleries, New York City. Purchased from that exhibition by Carl Hamilton, it recently passed into the possession of Julius H. Weitzner, from whom it was acquired by the Carnegie Institute.

Ferruccio Ferrazzi is a painter of strength and originality, a sensitive and retiring man who becomes alive and vital in the fantasies he creates in his canvases. His early paintings were after the manner of Segantini. Later he became interested in the impressionist movement, but after a short time turned once again to the masters of the fifteenth century. Traces of all these experiences may be found in his work now, but only traces, for his later paintings reveal a

highly personal art and style. While he is looked upon in his country as one of the outstanding modern artists, his roots are in the artistic tradition of the past, whose masters taught him that it is not so much this or that style of painting which counts as the preservation of an absolute vitality in the relation of art to life.

The artist was born in Rome in 1891, and, with the exception of two years in Switzerland, has spent his entire life there. Studying design and sculpture first with his father, he later attended the Institute of Fine Arts in Rome under Coromaldi and Sartorio. He exhibited for the first time in 1908, and in 1911 the Italian Government bought one of his paintings for the National Gallery in Rome. The National Pension, which he won in 1914, gave him a small income and leisure to paint. He first exhibited in the United States at the Carnegie International in 1925; and in 1926 his painting, "Horitia and Fabiola," won first prize in the International and was purchased by the late W. S. Stimmel, of Pittsburgh, for his collection. Ferrazzi won the second prize of 25,000 lire at the Roman Quadriennale in 1931, and in 1935 he was made a member of the Italian Royal Academy, with the title, "His Excellency." In 1937 he visited Pittsburgh to serve on the jury of award for the International of that year. He came to the United States again last year to supervise the installation of his mural in the Italian Building at the World's Fair. He has made a number of important murals in fresco in public buildings and church decorations with mosaic in Italy. He teaches at both the Royal Academy of Fine Arts and the American Academy of Rome.

The Carnegie Institute plans to assemble the thirty-nine paintings acquired through the Patrons Art Fund and install them in one gallery in a special exhibition which will be held sometime during the year and will be in the nature of a tribute to the subscribers to the fund. At the present time the paintings are distributed throughout the permanent collection. This will be the first time they will have been assembled apart from the other paintings owned by the Institute, and the exhibit will give an idea of what has been accomplished through the generosity of the men and women who created the Patrons Art Fund.

J. O'C. Jr.

PITTSBURGH GOING FORWARD

Pittsburgh has for a good many years been studying the general question of a development necessary to meet the municipal requirements of the age. For nearly a generation she has had a Civic Club and other groups composed of earnest souls who have spent millions of their own funds in making present improvements and planning for future ones. Quite recently she has been so fortunate as to secure the services of Robert Moses, of New York, a great and competent public servant, in an investigation of her traffic, living, and esthetic needs for the next score of years, which, although the cost has been set at $38,000,000, has not dismayed our citizenship, but, on the contrary, has awakened a fine spirit of enthusiasm and courage to go ahead with this essential enterprise.

Mr. Moses brought with him to Pittsburgh a group of associates who knew his ways, and on arrival here he received the co-operation of all the civic and political forces of the community. All the expenses of this study —and they were as elaborate as the plan itself—were donated by Howard Heinz, Arthur E. Braun, R. K. Mellon, E. T. Weir, W. L. Mellon, H. Lee Mason, and the Buhl Foundation.

The preparation and adoption of the plan is a grand acknowledgment of civic duty, and the governmental powers have already entered upon the achievement of the undertaking in its entirety.

THE GARDEN OF GOLD

THIS is 1940, and in the passage of this decade something of very great importance to Pittsburgh is going to be encountered. This "something" is the arrangement, referred to every month in this department, whereby the Carnegie Corporation of New York has obligated itself to pay over to the Carnegie Institute of Technology, at Pittsburgh, $8,000,000 for its Endowment Fund, provided that the people of Pittsburgh shall, by June 30, 1946, have contributed $4,000,000 to the same great purpose, one third of which may be in buildings on the campus. This will constitute a new endowment of $12,000,000, and, if America gets back to normal conditions by that time, it will yield a new and permanent annual income of $600,000 for Carnegie Tech, the most of which will always be spent in Pittsburgh.

Why should not the Carnegie Corporation do it all? Why should not Andrew Carnegie's great fortune lie upon the table in New York for the Pittsburgh trustees to draw upon at will for the development of the Pittsburgh institutions that bear Mr. Carnegie's name?

Well, that is not an unfair question, and it was discussed many times, fully and frankly, between the Carnegie Corporation of New York trustees and the Carnegie Institute trustees, of Pittsburgh; and it was found by a cordial agreement between these earnest representatives on both sides that it would not work to the welfare of any institution to have an unlimited command of new wealth for its expansion. Mr. Rockefeller had found this truth to be self-evident in his generous aid given to the University of Chicago, and so, after making one final huge gift of money to it, he announced that his purse was closed. From that time on the growth and usefulness of the University of Chicago was enormously expanded, and the support accorded to it from individual friends gave marvelous proof of Mr. Rockefeller's wisdom.

Elihu Root was chairman of the Carnegie Corporation of New York at the time these negotiations were being carried on, and in a letter to James H. Reed, a Pittsburgh trustee, on April 19, 1920, he said: "It seems to us that no educational institution can afford to be free from the limitation upon its judgment as to expansion which results from a definite limitation of the funds it has at its disposal. Everybody who is worth his salt has a tendency to expansion of an institution which he has in his charge. Everybody in that situation needs restraint, and restraint cannot be practically secured if one Board of Trustees is expected to pass on the expenditures without having any money limit to apply, and another Board of Trustees is expected to furnish the money without having passed upon the expenditures. We think there ought to be a definite understanding reached as to the amount of money which the Carnegie Institute, of Pittsburgh, is to be at liberty to ask from the Carnegie Corporation of New York."

Accordingly, the Carnegie Corporation made the financial settlement at that time which was to reach its fulfilment in 1946. This arrangement called for the immediate gift of $8,000,000 to Carnegie Tech, which was paid; it involved further large grants to the Carnegie Institute, which were paid; and then it provided that at the end of twenty-five years, or on June 30, 1946, there should be a final gift to the Carnegie Institute of Technology of $8,000,000, with the condition so frequently printed here that Pittsburgh friends should contribute an additional $4,000,000.

The people of this city were not slow to perceive the innate wisdom, fairness,

and generosity of this agreement; and almost immediately they began to bring in a golden stream of money, ranging from $1 to $300,000, which showed that there had been no misplacement of confidence, and which up to this time exceeds $1,000,000, every dollar of which brings two additional dollars on its back.

Even so grave an enterprise must be brightened up by a sense of humor; and the happy idea was evolved of establishing a Garden of Gold, where money deposited would in every planting of one dollar grow into three dollars, and there was no garden like that in all the world. "But," people said, "every garden must have a gardener." And so we asked our readers to suggest a name for our Gardener. Forty names were sent in, and some of us around here made our suggestions; but none of us had the wit to choose a fitting name until Robert Garland, in a happy inspiration, suggested Jason, and Jason was adopted.

Who was Jason? Why, Jason was the man who went after the golden fleece, and got it. The objective ahead of us for 1946 was literally a golden fleece, and Jason the Gardener was the man to get it. But Jason ought to have a wife, and Penelope was chosen for his mate. Now, Penelope was not, in those ancient times, the name of Jason's wife; but his real wife, Medea, was not so good, and right here in the Carnegie Institute we gave him a better wife. As we have said, more than $1,000,000 has been contributed by Pittsburgh people on this undertaking to raise $4,000,000; so that, in the six years that lie ahead we are to accumulate $3,000,000 in order to get New York's $8,000,000.

There were many gifts, both large and small, that came to Jason during the holiday season. In order to keep the Garden of Gold record for monthly fruitage unbroken, let us say that the Gardener received a check for $5,000 from a man who walked in the door of Jason's cottage, handed the money to him, and walked out in utter silence.

In making this report, it enables us to continue to say that since the inauguration of the CARNEGIE MAGAZINE, not one month has passed without the acknowledgment being made of one or more gifts of money for these institutions.

It has been thought well to discuss the subject in this familiar way with the opening of the year 1940. Next month we shall continue to report the gifts in the usual detail as they come into Jason's possession. But for this month, let us all think over the question itself.

DR. BIDWELL'S LENTEN LECTURES

"AN ORGANIST'S VISIT TO ENGLISH CATHEDRALS"

FEBRUARY

10—Salisbury and Winchester.
17—Durham and York.
24—Canterbury and Westminster Abbey.

MARCH

2—Ely, Lincoln, and Gloucester.
9—Wells and Exeter.
16—Two Famous Organs of Liverpool.

MUSIC HALL
Saturday at 8:15 P. M.

OUR BILL OF RIGHTS

In a time when personal liberties are being trampled underfoot and when personal vengeance is not only condoned but encouraged by totalitarian leaders, the great democracies must look again and with new concern to their Bill of Rights. In such documents lives the sum of man's victories over the forces of barbarism and oppression, and in their preservation lies the hope of man as a free individual.

—JAMES TRUSLOW ADAMS

THE ONE ENDLESS WAR

To reject eternal peace as an absurdity and as something foreign to the creed or to the temperament of any people, is to proclaim oneself a barbarian and an enemy of all mankind. Physical force and terrorism cannot accomplish the high ends at which civilization aims. Intelligence, sound moral standards, and the spirit of service can do so, always have done so, and will continue to do so. It is for these that the one endless war is to be untiringly waged.

—NICHOLAS MURRAY BUTLER

A SURVEY OF AMERICAN PAINTING

To Take the Place of the International

An exhibition, Survey of American Painting, will take the place of the annual International as the Founder's Day exhibition at the Carnegie Institute this year. Since 1896, with the exception of the five World War years and again in 1932, the Institute has presented annually an International Exhibition of Paintings. This year the trustees of the Carnegie Institute have decided to forego the International because of the European War. At the same time they accepted the recommendation of the Director of Fine Arts, Homer Saint-Gaudens, to present next October an exhibition of paintings that will reconstruct the work of American artists from the earliest times to the present day. This exhibition will open on Founder's Day, which commemorates the gift of the Carnegie Institute to the people of Pittsburgh, and which this year falls on Thursday, October 17, and will continue through December 8.

The United States has become conscious and proud of the recent developments in American painting, but there have not been many opportunities to view contemporary efforts in conjunction with the background of American art. This survey is so planned that it will set forth the story of American painting by way of three hundred carefully selected and representative canvases.

Approximately one hundred paintings will represent the period from 1730 to 1880. This section will include John Hesselius, John Smibert, and Robert Feke, go through the peak of the English tradition as set forth by Stuart and Copley, then reach through the later period, which includes Sully and Trumbull as portrait painters and men like Bingham with his genre pictures, to Church and Cole with their grandiose landscapes.

The period covering approximately 1880 to 1920 will be represented by the same number of canvases, and will naturally include those of the internationally famous Whistler and Sargent. This section will show the development of that wave of art consciousness that first took form with Homer and Eakins, later progressed into the time that the upheaval in the National Academy produced the Society of American Artists—organized by such forward-looking men as Thayer, La Farge, and Twachtman—and finally reached out under the leadership of men like Henri and developed that group known as the American realists—Glackens, Luks, Sloan, Shinn, and Bellows—who led to such present-day men as Speicher.

Finally, there will be a section of one hundred American painters representing the various aspects of what is produced today. This will cover the period of 1920 to 1940, and will set forth painters such as Leon Kroll and Clifford Beal and contrast them with other painters like Benjamin Kopman and Jack Levine.

In this exhibition of American art, as in the International, the plan will be not to promote a school of art or to attempt to indicate that one artist is good and another bad, but to set forth in as unprejudiced a way as possible the history of the art of painting in the United States.

J. O'C. Jr.

OUR WORK IS FOR TODAY

We have before us the work of our own day and generation, and only this can we push forward during our lives. To this it is our duty to devote ourselves, leaving the work of the distant future to our successors. Rare are the men capable of dealing wisely with the needs of their own time. Even with these their success is often not surprisingly brilliant. We have not been blest with men capable of legislating properly for generations to come. They do not and cannot exist.

—Andrew Carnegie

THE EVOLUTION OF THE HORSE

By J. LeRoy Kay

Acting Curator, Section of Vertebrate Paleontology, Carnegie Museum

The horse, the only animal extant that has but one toe on each foot, has played an important part in the progress of civilization. A beast of burden since the dawn of recorded history, it is, of all living animals, the one best adapted for this purpose. At the present time almost everywhere that man lives, the domesticated horse may be found also. The animal in its wild state—the wild asses and zebras belong to the genus Equus as do their domesticated kin—is found only in Central Asia and Africa, but it is from these wild animals that our much-improved tame horses have been developed. The great modifications by crossing and selective breeding that they have undergone in the process of their conversion to the uses and advantages of man are well exemplified by comparing such extreme forms as the Shetland pony, thoroughbred racer, and draft horse.

In the early part of the Quaternary period, or Age of Man—the entire geologic period through the Tertiary up to the present time—wild species of the horse were to be found on every continent except Australia. These animals were much like the present species, and the majority of them are included in the typical genus Equus. During Pleistocene times they disappeared from the Western Hemisphere entirely, but the stock was brought back by the early white settlers, and from this stock are derived the wild horses, or, as they are often called, the "Indian ponies," of our own Far West and of South America.

The modification of these animals, as revealed by the fossils found in the rocks of the Tertiary period, affords the best-known illustration both of the theory of evolution by means of natural selection and the adaptation of a race of animals to its environment. The changes that took place in the feet, teeth, and in all the parts of the Equidae skeleton were undoubtedly due to change in habitat.

Beginning with the little Eohippus of North America, known by the complete skeleton, and Hyracotherium of Europe, of which only the skull is known, the horse, no larger than a small terrier dog, had four toes on each front foot and three on each hind one. These specimens underwent such exigencies in their existence that the development of their feet—due to changing environments and struggles for survival—in the succeeding members of their tribe necessarily must show a definite progressive reduction in the size of the side toes. Such a modification is increasingly and noticeably revealed in each species in geological sequence until in modern horses of present times toes are represented by "splint bones" behind the cannon bone on each side. Also, the little horse of the genus Eohippus lived in the forests of the Eocene epoch, browsing on indigenous plants rather than on the grasses that nourished his later and present-day descendants. His teeth were short crowned and rather simple in pattern, the molars having six rounded knobs, or cusps, on each upper tooth and four on each lower one—the cusps just beginning to show signs of joining by cross crests. The premolar teeth were even more simple in pattern, beginning to show signs of molarization.

These Eocene horses began venturing

onto the plains and, as they did so, their teeth changed to enable them to grind the tough grasses, and, since they no longer had the protection of the forest, their feet and limbs developed a running speed that enabled them to get away from their enemies.

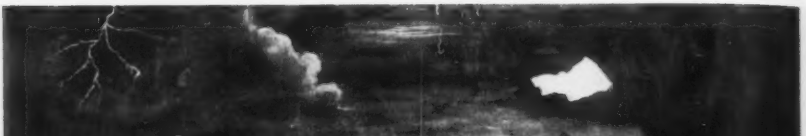
These changes amplified in the Mesohippus of the next epoch—the Oligocene. This horse was larger and had a larger middle, or third, toe, with the side, or lateral, toes reduced in size, and bearing very little of the animal's weight. His teeth are longer, the last three premolars have become entirely like the molars, and the cross crests are fully formed. In fact, the horses of the Oligocene have evolved from tiny, sheltered forest dwellers to more or less sturdy, roving plains-animals.

There are several stages known in the sequence of the different types of horses between Eohippus and Mesohippus that clearly show this transition, and the evolutionary trend as far as it is possible to record it continues on throughout the successive geological epochs, showing a gradual change into its modern form with each stage characteristic of its particular geological horizon. From lower Eocene, or Paleocene, times, there was an increase in number of species until the Miocene epoch when the horses reached their peak in numbers of genera and species.

An exhibition interpreting the theory of evolution as exemplified by the story of the horse has recently been placed on view in the Hall of Fossil Mammals at the Carnegie Museum. It was modelled and prepared by Harold J. Clement, taxidermist of the Museum staff, primarily for the use of teachers conducting classes through the galleries, and shows an example of a typical genus for each geological epoch. Of course, stages are known in this evolution that space would not permit us to portray.

THE EVOLUTION OF THE HORSE AS SHOWN IN THE NEW EXHIBITION CASE IN THE HALL OF FOSSIL MAMMALS

PRESENTING KARL HOFER



THE LANDING—1935

THE CARNEGIE INSTITUTE has a particular interest in presenting an exhibition of the paintings, drawings, and prints of Karl Hofer, for it may justly claim a part in his artistic career. His painting was first introduced into the United States when he showed in the 1925 International. In 1927 he visited Pittsburgh at the invitation of the Institute to serve on the jury of award for the International of that year. In 1934 his painting, "Pastoral," was awarded second prize, and in 1938 his painting, "The Wind," acquired first prize. In the 1939 International he showed a group of three paintings, "Girls Playing Cards," "At Home," and "The Gramophone." In all, twenty-four of his paintings have been exhibited in Carnegie Internationals.

Karl Hofer was born in Karlsruhe, Germany, in 1878. He received his early training at the Karlsruhe Academy and later studied in Paris and Rome. From 1903 to 1908 he was in Rome. In the next year he settled in Paris, where he remained, with the exception of two trips to India, until the outbreak of the World War. He was interned for the period of the war in Southern France, and, after the Armistice, took up his residence in Berlin and became an outstanding figure among the more advanced artists of Germany. Through his work and his professorship of painting at the Berlin Academy, he exerted a great influence on the whole field of German art. He is the most international of the German modernists, and his paintings are to be found in many important collections of Europe, state and private, and in a number of public galleries in the United States.

Fortunately Karl Hofer has given us an outline of his work in a preface that he wrote for a catalogue of his exhibi-

tion at the Alfred Flechtheim Gallery in Berlin in 1931. He wrote:

"We stand today at one of the great turning-points of culture, one unfelt by the majority. Our points of view are fluctuating. A new, deeper, and subjective approach to Nature has created new forms of art, and the events of our innermost spiritual experience clamor for tangible expression. During the past five years my principal task has been to achieve, by artistic means, the purely pictorial aspect of these perceptions of form and color.

"My character was solidly anchored in traditional forms, within whose bounds I endeavored to express my personality. Rejected by the opinions of a new order, these forms are no longer adequate, but where I can use them I try to fill them with new life. . . . For me no difference exists in principle between nonobjective and objective representation. If a picture has been experienced and created according to the rules of graphic counterpoint, it is immaterial whether its theme is form visually or intuitively apprehended. The entire gamut of possible expression and representation lies between the objective and nonobjective methods, and I claim artistic license for the artist who feels attracted to them, so that he may make use of these manifold opportunities.

FLOWER GIRL—1935

"For me each picture has its own laws; I try to develop its form from the inmost nature of the thing painted. It will differ characteristically from the next picture, for only paintings done from the same sequence of images can be similar. . . . I want my work to be known, not only by its exterior peculiarities: color, 'palette,' or uniqueness, but by its spiritual affinity and intrinsic consistency. . . . I profess no theories, for then I should have to carry them to their conclusion, which is to say, ad absurdum. Degree of novelty is for me no criterion of value."

REPAST—1938

The years that have elapsed since that statement was penned have been difficult ones for Karl Hofer, but they have left no apparent hint of social criticism in his work. All the paintings in the exhibition are of the period between 1933 and 1938. In that time there has been no notable change in his style, but there has been a constant

refinement of those personal elements —his color, his simplification of the technique of modern art, his sense of form, and his controlled expressionism —all of which continue to confirm him as the outstanding, if not the most original, figure among modern German artists.

His early work was influenced by Puvis de Chavannes, but he soon became interested in primitive art and in the work of Cézanne, Picasso, and Derain. Hofer has been called the "classic modern," because within the simplicity of his own art he has succeeded in confining and refining—taming, as it were —many of the exceedingly complex and unruly elements of modern painting, and in reducing them to a kind of order. Hofer believes "painting should be kept apart from Nature, and yet remain within actual contact of it." His style, severe and thoughtful, places its emphasis on construction. An inner spirit, however, animates even the most extreme of his structural severities, and they are often further softened by the use of a rich textural surface and a still richer color.

The exhibition opened on January 4 and will continue through January 28.

J. O'C. Jr.

COMING EXHIBITIONS

Variety will be the keynote in the Carnegie Institute galleries in February, with the annual International Water Color Exhibition, a group of paintings by the popular English portrait painter, Gerald L. Brockhurst, and the thirtieth annual exhibition of the Associated Artists of Pittsburgh.

The local artists will again have the third-floor galleries, in which will be displayed not only paintings, but also crafts and sculpture, and, for the first time, an entire gallery room devoted solely to water colors. This exhibition is naturally one of the most popular during the season and this year should appear to even better advantage, due to an augmented group of prizes and a consequent new impetus among exhibitors. The jury, which will meet in Pittsburgh on January 27, is made up of men of national artistic reputation. The painting jury consists of Robert Brackman, John Carroll, and Judson Smith, each of whom is familiar to Pittsburghers through participation in the Carnegie International Exhibitions. The jurors for the sculpture and crafts divisions of the exhibition are Viktor Schreckengost of the Cleveland Museum of Art; and Paul Fjelde, sculptor and part-time instructor at Pratt Institute.

This annual exhibition of Pittsburgh artists will be shown in the galleries from February 8 through March 10, as will the International Water Colors. The paintings by Gerald L. Brockhurst, who will be remembered for his portrait of Mrs. Paul Mellon in the 1939 International, will be on view from February 5 to February 29. Beginning on March 15 Masterpieces of Art, comprising the European paintings from the New York and San Francisco World's Fairs, will be shown at the Carnegie Institute. These are the famous paintings of Old Masters that were borrowed from European galleries and shown in the Masterpieces of Art Exhibitions at both New York and at the Golden Gate International Exposition, San Francisco. In April the work of the Spanish artist, Ortiz-Echague, will appear in a one-man show.

KEEPING OUT OF WAR

We must shoulder the moral responsibility of keeping out of war. We must show in the pursuit of peace a resolution and devotion comparable to that which belligerent peoples show in the pursuit of war. What would that mean? Each must work it out for himself. . . We must tax ourselves, conscript ourselves, in the cause of peace, cooperation, and good will.

—William Pierson Merrill
[President, Church Peace Union]

DEFINITION OF A CLASSIC

Something that every one wants to have read and nobody wants to read.

—Mark Twain

"THE PLAY'S THE THING"

Reviewing "Excursion" by Victor Wolfson

By Harold Geoghegan

Professor of the History of Art, Carnegie Institute of Technology

For its third production the Department of Drama has descended from the heights of Mycenae and the doings of the august figures that peopled them to give us a glimpse into the lives of the lowly folk whose habitat is the Lower East Side of New York and the Bronx, and whose hebdomadal Elysium is their Sunday trip to Coney Island. In "Excursion," Victor Wolfson has fashioned from his material an amusing and sometimes touching little comedy with a whimsically serious note.

Captain Obadiah Rich is taking his weekly shipload of excursionists on his last trip to Coney Island. He has just heard that his beloved ship, the S.S. Happiness, is to be converted into a garbage scow, and that he himself is to be retired. He looks forward with a complete lack of pleasure to a life of enforced inactivity in some seaman's home. He has come to have a very kindly feeling toward his passengers, many of whom make the trip Sunday after Sunday. Just before the boat leaves on its final trip, he is visited by his brother Jonathan, another ancient mariner, and the two old sea dogs fall to reminiscing about their shipmate Hopkins, who had planned to leave the sea and settle in "some dim, green, well-beloved isle" which he alone knows of, where life flows on evenly, and there is enough for everybody and where all the problems that beset those who live in civilization are absent. But now old Hopkins is dead, and his happy island will never be inhabited. Captain Obadiah thinks wistfully of his passengers who each Sunday morning set out so full of hope, only to return on Sunday evening, deceived and disappointed, to their drab weekday life. He feels that they have been cheated and thinks how happy they would be on Hopkins' island. Now, by chance, Jonathan has Hopkins' chart with him. Why, he suggests, should they not on the return journey, instead of steering back to New York, put out to sea and steam away for the blessed island?

So, when the S.S. Happiness starts for home, Captain Rich puts his plan before the passengers, and the greater part of the second act is concerned with their reactions to his proposition. After much discussion and protest, however, the majority of the passengers decide to try the experiment, and, in the darkness and a thick fog that has come up, they start off on the fantastic voyage. That all of them finally arrive home in New York is not due to any change of heart on their parts, but to the fog and the eccentric steering of the man at the wheel, who is momentarily incapacitated owing to an overindulgence in hot dogs.

The author gives us to understand that the lives of the would-be adventurers are somehow changed, and their problems nearer solution from having—however unsuccessfully—courageously made the attempt to escape from the life that has been forced upon them: a pleasant and comforting thought, if not thoroughly convincing!

The first act of the play is taken up in showing us the motley crowd that

STUDENT PLAYERS IN A SCENE FROM "EXCURSION" HUGH F. SMITH

makes up the passenger list of the S.S. Happiness. The author has given us a surprising number of amusing and sharply etched character studies. We have the Fitchels, an elderly Jewish couple whose one idea is to sleep and forget for a few hours their weekly troubles; Mrs. Loschavio, married to a man whom she has grown to hate and indulging in a perilous flirtation with a handsome young gangster; Lollie, who has left college full of high hopes for a literary career, and is now working in the basement of a department store; Lollie's two fellow-workers: Martha, whose ambition is the capture of a man—almost any man—and Tessie, who has no ambition at all but to keep her wretched little job and to break into a dance on any and every occasion. There is Irish Mrs. Geasling and her baby and the irrepressible Mike. These, with a score of others, are neatly and deftly characterized, and seemed to me the best things in "Excursion."

The Captain, his brother, and the seamen who make up the crew are more conventionally drawn. These whimsical old sea dogs are done in the familiar Cape Cod manner that has been part of the stock in trade of fiction for a great many years. The contrast between the seamen and the passengers is effective enough theatrically, but it seemed to me a contrast between real people and people out of a book rather than between two groups of real people.

Such a play as "Excursion," with a large number of clearly defined types, is an admirable vehicle for a dramatic school. It supplies the actors with a variety of parts that can be made effective and does not throw the burden of the play upon the shoulders of two or three actors only. It also gives the director and his troupe an opportunity of showing what they can do in the matter of ensemble playing. Henry Boettcher and his actors rose to the occasion, and "Excursion" was given as brisk and animated a performance as you could ask for.

There are at least thirty characters, and for a great deal of the time they are all on the stage together. Most of them were amusingly played. In the opening performance there was a delightfully tough Martha and a fine pathetically comic portrait of tired old Mr. Fitchel. The Mrs. Geasling had a convincingly juicy brogue and clouted her offspring with realistic vigor. The Eileen Loschavio played the part of a nervous and unhappy little girl with skill and managed to look the part, too. In both casts the actress who played Mrs. Loschavio was quite up to the requirements of what is perhaps the most effective part in the play. Both Tessies were amusing—and quite different—as

that complete and perfect nitwit. I liked the gentle Mrs. Fitchel in both casts, and the Red Magoon was properly sinister. Both Lollies were played with a nice quiet sincerity.

The chief part of Captain Obadiah Rich seemed to me less satisfactory, but both the Captains did their best with a conventional and artificial characterization, and radiated as much benevolence as their respective personalities permitted.

It was to the good ensemble playing rather than to any individual performance that "Excursion" owed its success. Often on the stage of the Little Theater we have seen inadequate and awkward acting. This is inevitable. After all, the actors are still students, and students must be given a chance to try their wings in all sorts of parts if they are to learn their trade. There is, thank goodness, no such thing as type casting. But in the matter of ensemble playing the performances at the Little Theater seldom leave much to be desired. It is this that lifts them above even the most talented amateur performances and puts them in the professional class.

DAWN OF WORLD PEACE

Rules of conduct which govern men in their relations to one another are being applied in an ever increasing degree to nations. The battlefield as a place of settlement of disputes is gradually yielding to arbitral courts of justice.

—William Howard Taft

PROGRAMS FOR CHILDREN

Free motion pictures for children are shown at 2:15 P.M. each Saturday from November through March in the Carnegie Lecture Hall. The films are especially selected, and the first Saturday of each month illustrated talks are given by world travelers. The last of these illustrated talks will be given on February 3 by Arthur C. Twomey, Field Collector, Section of Ornithology, Carnegie Museum. Dr. Twomey will lecture on the subject, "The Tundra Speaks," and will illustrate his talk with motion pictures taken on his recent trip through Labrador. The regular showing of the films will continue until Saturday, March 30.

The weekly story hour of the Boys and Girls Department of the Carnegie Library begins at 1:30 P.M. each Saturday. Any child who wishes to do so is cordially invited to attend.

FREE LECTURES

[Illustrated]

Museum

SUNDAY AT 2:15 P.M.

Lecture Hall

In preparing the lecture program of the Carnegie Museum, it has been the aim to present various interesting phases of the natural history and geography of the world, and, so far as possible, to do this in a nontechnical, informative, and popular manner.

January

21—"Around the African Continent," by Edith Bane, lecturer, world traveler, and expert photographer.

28—"Picturing Miracles in Plant and Animal Life," by Arthur C. Pillsbury, famous photographer of plant-life development.

February

4—"Western Exploration," by J. LeRoy Kay, Acting Curator of Vertebrate Paleontology, Carnegie Museum.

11—"Blue-Green Water," by Constance and Wesley Mueller, color photographers.

18—Title to be announced of a lecture, by J. Kenneth Doutt, Curator of Mammalogy, Carnegie Museum.

25—"Circling the Caribbean," by Horace G. Richards, Paleontologist and Research Associate on Mollusks, New Jersey State Museum.

March

3—"Where Falls the Yellowstone," by Alfred M. Bailey, Director, Colorado Museum of Natural History, mammalogist, ornithologist, and authority on the filming of wild life.

10—"Baffinland and Greenland," by Donald B. MacMillan, world famous traveler and explorer.

THURSDAY AT 8:15 P.M.

Lecture Hall

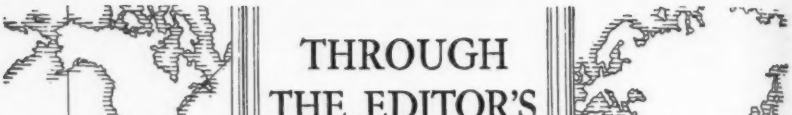
February

1—"More about Labrador," by W. E. Clyde Todd, Curator of Ornithology, Carnegie Museum.

WHAT IS THE IDEA?

Overestimation of the value of personality in dictatorial states has led the world into watching the development and the acts of the various personalities which are so much in the foreground, rather than watching the development of the idea, which is the only thing that matters.

—Count Ferdinand Czernin



THROUGH THE EDITOR'S WINDOW

BY SAMUEL HARDEN CHURCH

PERSONAL PUNISHMENT FOR WAR-MAKERS

THE view that has been expressed in this department of the CARNEGIE MAGAZINE that the crime of making a war shall be treated as a matter of personal guilt, and punished accordingly, has evoked a rather surprising accord from important persons in neutral countries. After the battle of Waterloo, the Prussians proclaimed Napoleon a public enemy and declared their purpose of shooting him; and in this design they were restrained only by the magnanimous conduct of England in making him a prisoner for life at Saint Helena. At the close of the World War in 1918, Lloyd George based his claim for the return of his party to Parliament and his own continuance as Prime Minister on his promise "to hang the Kaiser." But meanwhile William had secured domicile in Holland, and he is there yet.

But the history of civilization would have been different if these two spectacular criminals had been tried before military courts and promptly executed; and that is the fate that ought to be meted out to Adolf Hitler. It violates every sense of dignity, honor, and justice to picture a peace conference—held, probably, at Berlin—where Mr. Hitler will be permitted to occupy a seat at the table and speak in the name of Germany when the peace terms are broached. Every life that has been lost in this war, every ship that has been sunk, every nation or community that has been exterminated, every plot that has been laid for the multiplication of these offenses against a civilized world—all these things are the personal crimes of Adolf Hitler. England and France have declared that they will not make or accept any treaty that is based on Hitler's authority; and they have clearly intimated that they are prepared to restore peace on the instant that Hitler and his hoodlum government are destroyed. And every sane and humane person in the world outside of Germany is with England and France in that hunger of the soul.

A CALL FROM DREAMLAND

THE Reciprocal Trade agreements have been put before Congress with complete approval from President Roosevelt and enthusiastic pressure from Secretary Hull. There are two claims made by the administration in support of this policy: first, that these agreements will abolish war; and, second, that they will raise the standard of living in foreign countries by preventing unemployment everywhere. The ultimate goal of the Reciprocal Trade agreement is universal free trade; and the universal standard of living which they proclaim is, and must always be, based upon the schedules of wages and hours prevailing variously throughout the world and divided upon an average figure common to all labor.

It is a beautiful theory, but a theory that belongs in Utopia. It has had

partisan advocates in the United States from the beginning of our history. Alexander Hamilton, in a series of brilliant state papers, showed its fallacy and its danger; but those who aim in their minds at the ideal of universal equality have never been able to accept the essential principle of a protective tariff as a basis of national prosperity.

Abraham Lincoln made a homely illustration of the whole controversy which has now been laid upon the Congressional doorstep as Bill Number 1 in the administration's "must" legislation. In the early days of our Republic, before venturesome business men had had the courage, and the vision, and the confidence of a supporting Government to build the industrial plants which have since made this democracy the wonder of the world, our railroad managers obtained their supplies of rails—at that time iron rails—from England. Lincoln made the nation see the folly of this practice when he made this argument: "I don't know much about the tariff, but I do know that when we buy the rails in England, we have the rails and England has the money; but when we buy the rails in our own country, we have both the rails and the money." From Lincoln's day to this, it has happened that when America has worked under a protective tariff there has been employment for all our people; and when we have yielded, as now, to the idea of universal brotherhood, which, for example, brings our cotton from Japan, we have caused nothing but widespread misery and despair.

American workmen have always refused to accept an average system of wages and hours which has for its terms in arithmetic the pay of the Chinese coolie of two cents a day at the bottom and the rates running up to twelve dollars a day in this country at the top. But the Reciprocal Trade agreements—for practical free trade—are now in force in some eighteen countries, and the administration is urging their universal adoption with a zeal that is worthy of a better cause. And that is why the larger part of twelve million American workmen are out of honest and happy work, and that is why they have become accustomed to the destructive tendencies of idleness and the relief allowance.

As for Mr. Hull's claim that these agreements will stop wars, the tragic denial of his asseveration comes to us on every wind of heaven.

A JUG-HANDLED LABOR LAW

A YEAR ago a representative of union labor invited me to act as arbitrator in a threatened dispute between the men and their employers; and when I was about ready to say that I would be glad to serve, my caller spoiled the whole case that he had attractively built up, by saying: "I hope you will do this for us, for if a strike is called the men will begin right away to break windows and throw stink bombs."

I have never believed that the American workman is by choice the hoodlum that was thus thoughtlessly, I think, pictured by the man who had come to see me. Yet how is it that the terrible and terrifying things that have been done in the past three years in America in the name of organized labor have come to pass? Especially in Detroit, where industrial happiness and prosperity seemed based upon a common ground of social justice and family consideration, all the evils that have so recently been developed—the sit-down strike, the seizure of property and its destruction, the breaking of windows, and the throwing of stink bombs, all of which my friend had laid before my eyes as hanging over Pittsburgh—all these acts of violence, leading in their essence up to insurrection, have furnished a daily story at the American breakfast table which has, in many a case, prevented good digestion from waiting on appetite.

The courts have intimated that the Wagner Act provides a stomach for all these violations of the right of labor

to a peaceful and protected life, and of the right of capital to the secure operation of its property. And then, in the darkest hour, comes a revelation in that example set by the employees of the Endicott-Johnson Shoe Corporation, when eighteen thousand of them, turning their backs upon the professional labor leaders, declared that they would not, under any circumstances, enter into the membership of any labor organization whatever.

Any student of industrial economy will be forced to admit that labor unions, when guided and controlled by law, are necessary to the protection and welfare of our workmen. But the Wagner Act, from which these unbearable abuses spring, is a jug-handled law. It was fashioned in the arrogance of extreme dictatorship; it was not, and is not, free from mercenary influences, and Congress should speedily revise it so that it will protect labor from exploitation and capital from wanton destruction. When this is done, and properly done, it will never again be possible for labor leaders to have in their control, as they have now, millions of dollars which can be used for questionable purposes without any accounting to the men whose monthly dues produce such sums or to the American people whose rights are fundamentally violated in all these deeds of darkness.

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